

1 Hour

### SESSION III

#### EYE EXAMINATIONS: DETECTING SIGNS OF DRUG INFLUENCE

**SESSION III: EYE EXAMINATIONS: DETECTING SIGNS OF DRUG INFLUENCE**

Upon successfully completing this session, the participant will be able to:

- o Overview the major eye indicators of impairment

**CONTENT SEGMENTS**

A. Detecting Signs of Drug Influence

**LEARNING ACTIVITIES**

o Instructor-Led Presentation

Aids	Lesson Plan	Instructor Notes
 <b>60 Minutes</b> 	<p><b>EYE EXAMINATIONS: DETECTING SIGNS OF DRUG INFLUENCE</b></p> <p>A. Detecting Signs of Drug Influence</p> <ol style="list-style-type: none"> <li>1. The eyes disclose some of the clearest signs of drug influence or medical impairment.             <ol style="list-style-type: none"> <li>a. Horizontal Gaze Nystagmus is an indication of possible alcohol influence.</li> <li>b. There are a number of drugs, other than alcohol, that will enhance horizontal gaze nystagmus.</li> <li>c. There are a number of other drugs that will not cause horizontal gaze nystagmus.</li> <li>d. There are other clues that the eyes will disclose, all of which will suggest the presence or absence of drugs or medical impairment.</li> </ol> </li> <li>2. Overview of eye examinations             <ol style="list-style-type: none"> <li>a. The eye examinations that you can conduct to assess possible drug or medical impairment include:                     <ul style="list-style-type: none"> <li>o tracking ability</li> <li>o pupil size</li> <li>o horizontal gaze nystagmus</li> <li>o vertical nystagmus</li> </ul> </li> </ol> </li> </ol>	<p>Ask participants: What is one of the most reliable signs of alcohol influence that can be observed in the eyes?</p> <p>Select a student to serve as a demonstration subject.</p> <p>Position a stimulus in front of a student's eyes, and check for lack of smooth pursuit across both of the student's eyes.</p>
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	<p>b. Watery and or redness of the eyes.</p> <p>c. Tracking ability will be affected by certain categories of drugs, and also by certain medical conditions or injuries involving the brain:</p> <ul style="list-style-type: none"> <li>o If the two eyes do not track together, the possibility of a serious medical condition or injury is present. It may also be an old injury and not a medical emergency at the time.</li> <li>o By passing a stimulus across both eyes, you can check to see if both eyes are tracking equally.</li> <li>o If they don't (i.e., if one eye tracks the stimulus, but the other fails to move, or lags behind the stimulus) there is the possibility of a neurological disorder.</li> <li>o If a person has sight in both eyes, but the eye fails to track together, there is a possibility that the person is suffering from an injury or illness affecting the brain.</li> </ul>	<p>Explanation: This will be further explained in the individual drug categories.</p> <p>Point out that this can occur because the suspect is blind (or nearly blind) in one eye. This can be checked by having the suspect cover one eye, and instructing the suspect to reach out and touch the tip of the stimulus.</p> <p>Point out that unequal tracking is a condition that should alert the officer that a medical examination of the suspect may be necessary.</p>

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 <b>Display</b> III-2	<ul style="list-style-type: none"> <li>o If the eyes track equally, but jerk while they are moving, then the possible presence of three categories of drugs should be noted.</li> <li>o The following categories of drugs enhance horizontal gaze nystagmus: <ul style="list-style-type: none"> <li>- Central Nervous System (CNS) Depressants</li> <li>- Dissociative Anesthetics</li> <li>- Inhalants</li> </ul> </li> <li>o The following categories of drugs do not cause HGN: <ul style="list-style-type: none"> <li>- CNS Stimulants</li> <li>- Hallucinogens</li> <li>- Narcotic Analgesics</li> <li>- Cannabis</li> </ul> </li> </ul> <p>d. Pupil Size will be affected by several categories of drugs, and also by some medical conditions or injuries:</p> <ul style="list-style-type: none"> <li>o If the two pupils are distinctly different in size, it is possible that the subject has a glass eye or is suffering from a head injury or a</li> </ul>	<p>Old head or eye injuries may cause different pupil size, however, this may not depict a medical emergency.</p> <p>Point out that it is sufficient to look at a suspect's pupils and estimate whether they look noticeably small, about normal, or noticeably large.</p>

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 <b>Display III-3</b>	<p>neurological disorder.</p> <ul style="list-style-type: none"> <li>o If the pupils are noticeably dilated, then the possibility exists that the subject is under the influence of certain types of drugs.</li> <li>o Pupils may be considered dilated if the radius of the pupil is larger than half way to the outside of the iris.</li> <li>o Simply a small portion of the iris is visible. <ul style="list-style-type: none"> <li>- CNS stimulants usually cause dilation.</li> <li>- Hallucinogens usually cause dilation.</li> <li>- Cannabis usually causes dilation.</li> </ul> </li> </ul>	<p>Explain how to estimate dilation</p>
 <b>Display III-4</b>	<ul style="list-style-type: none"> <li>o If the pupils are noticeably constricted, then the possibility exists that the subject is under the influence of a narcotic analgesic.</li> </ul>	<p>Examples: cocaine, methamphetamine, amphetamine sulfate, etc.</p>
 <b>Display III-5</b>	<ul style="list-style-type: none"> <li>o Generally the pupil is considered constricted if the pupil appears very small and a large portion of the iris is visible.</li> <li>o CNS Depressants, Dissociative Anesthetics, and</li> </ul>	<p>Examples: LSD, peyote, psilocybin, MDMA, etc.</p> <p>Examples: marijuana, hashish, hash oil</p> <p>Examples: Heroin, codeine, demerol, etc.</p> <p>Point out that the types of drugs that usually induce nystagmus usually don't affect</p>

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 <b>Display III-6</b>	<p>Inhalants usually do not affect pupil size.</p> <p>3. The test of horizontal gaze nystagmus for subjects suspected of drug impairment is identical to the HGN test for alcohol impaired subjects.</p> <ul style="list-style-type: none"> <li>a. First clue - lack of smooth pursuit.</li> <li>b. Second clue - distinct and sustained jerkiness at maximum deviation.</li> <li>c. Third clue - onset of nystagmus prior to 45 degrees.</li> </ul> <p>4. The angle of onset becomes of special interest when a subject is under the influence of a Dissociative Anesthetic.</p> <ul style="list-style-type: none"> <li>a. Dissociative Anesthetics, and high levels (for that individual) of depressants and inhalants can exhibit immediate on-set, i.e., the jerking begins as soon as the eyes start to move toward the side.</li> <li>b. Sometimes, Dissociative Anesthetic-impaired subjects will exhibit resting nystagmus, both eyes jerk while they are looking straight ahead.</li> </ul>	<p>pupil size.</p> <p><b>Major Exception:</b> Methaqualone and Soma, CNS Depressants, will cause pupils to dilate.</p> <p>Ask participants: (What are the 3 clues of HGN)</p> <p>Write resting nystagmus on dry-erase board or flip chart</p>

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 <p><b>Display</b> III-7a &amp; III-7b</p>	<p>5. The Vertical Nystagmus test is very simple to administer.</p> <ol style="list-style-type: none"> <li>a. Position the stimulus horizontally, approximately 12 -15 inches in front of the subject's nose.</li> <li>b. Instruct the subject to hold the head still, and follow the stimulus with the eyes only.</li> <li>c. Raise the stimulus until the subject's eyes are elevated as far as possible and hold in that position for approximately 4 seconds.</li> <li>d. Watch closely for evidence of jerking.</li> </ol>	<p>Point out that vertical nystagmus typically appears in higher levels (for that individual) from the same drug categories that induce HGN - Depressants, Dissociative Anesthetics, and Inhalants.</p> <p>Point out that vertical nystagmus was not examined in the research that led to the validation of the standardized field sobriety test battery which includes, the horizontal gaze nystagmus, walk and turn and one leg stand tests.</p> <p>Select a student or another instructor to serve as a subject and demonstrate the vertical nystagmus test.</p>